

## Eventual positivity: examples, results, perspectives J. $Gl\ddot{u}ck^1$

Keywords: eventually positive semigroups; parabolic PDEs; long-term behaviour.

## **MSC2010 codes:** 47D06

We give an overview of the theory of eventually positive  $C_0$ -semigroups whose development has began during the last few years. This theory is used in order to analyse linear evolution equations on function spaces whose solutions for positive initial values first change sign, but then become and stay positive again for large times.

We discuss a few theoretical results about those semigroups as well as a number of concrete examples, and also mention some challenges and open problems.

 $<sup>^1 \</sup>rm University$  of Passau, Faculty of Computer Science and Mathematics, Passau, Germany. Email: jochen.glueck@uni-passau.de